THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

OK JMC claims 1-9

1. A method of encoding a frame counter used in communication between a sender and a receiver comprising the steps of:

a) maintaining a sequence counter and a frame counter at the sender;

b) computing new values of the frame counter such that the frame counter is unique and recoverable from an encoded value of the frame counter and said sequence counter.

2. A method according to claim 1 wherein the sequence counter is incremented each time a message is sent.

3. A method according to claim 1 wherein the frame counter is congruent to the sequence counter modulo 256.

4. A method according to claim 1 wherein the encoded value of the frame counter is formed by removing the least significant byte of the frame counter.

5. A method according to claim 4, wherein the frame counter is recovered by concatenating the encoded frame counter with the sequence counter.

5. A method according to claim 4 wherein the encoded value of the frame counter is 3 bytes in length.

6. A method of transmitting messages from a sender to a recipient over a wireless channel, the messages including a sequence counter and a frame counter, the method comprising the steps of:

a) establishing initial values of the sequence counter and the frame counter at said sender;

b) providing the initial values of said frame counter and said sequence counter to said recipient;

c) sending compressed messages including the value of the sequence counter and not the frame counter;

d) monitoring for an acknowledgement of receipt by said recipient;

e) when no acknowledgment is received, sending uncompressed messages until an acknowledgement of receipt is received from said recipient;

f) incrementing said sequence counter;

g) establishing the next value of the frame counter as the integer next larger than previous value of the frame counter which is congruent to the sequence counter modulo 256.

7. A method of transmitting messages from a sender to a recipient over a wireless channel, the messages including a sequence counter and a frame counter, the method comprising the steps of:

a) establishing initial values of the sequence counter and the frame counter at said sender;

b) providing the initial values of said frame counter and said sequence counter to said recipient;

c) sending compressed messages including the value of the sequence counter and not the frame counter;

d) periodically sending uncompressed messages including the value of the frame counter according to predefined criteria;

f) incrementing said sequence counter;

g) establishing the next value of the frame counter as the integer next larger than previous value of the frame counter which is congruent to the sequence counter modulo 256.

8. A method according to claim 5 wherein the predefined criteria are that an uncompressed message is sent after a predetermined number of compressed messages are sent.

9. A method according to claim 6 wherein the predetermined number is in the range 2 to 10.

10. A wireless device for receiving communications from other wireless devices in a wireless network, the device comprising:

a) storage for a frame counter;

b) a receiver for obtaining a message over the wireless network, the message including a sequence counter and data encrypted using a secret key and a new value of the frame counter as input to the encryption;

c) a decryptor configured to perform decryption complementary to the encryption used in the message, the decryptor having access to the secret key;

d) a processor connected to the message receiver and configured to recover the value of the frame counter from a sequence counter in the message and provide the frame counter and encrypted data from the message to the decryptor.

11. A wireless device for sending communications to other wireless devices in a wireless network, the device comprising:

a) storage for a frame counter and a sequence counter;

b) a processor to compute a new value of the frame counter such that the frame counter is unique and recoverable from an encoded value of the frame counter and said sequence counter;

c) a transmitter for sending a message over the wireless network, the message including a sequence counter and data encrypted using a secret key and the new value of the frame counter as input to the encryption.